

The opinion in support of the decision being entered today
is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Ex parte JERRY H. CHISNELL

Appeal 2007-2330
Application 09/542,897
Technology Center 3600

Decided: August 29, 2007

Before DONALD E. ADAMS, ERIC GRIMES, and
RICHARD M. LEOVITZ, *Administrative Patent Judges*.

LEOVITZ, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1-13 and 15. We have jurisdiction of this appeal under 35 U.S.C. § 6(b). We affirm.

STATEMENT OF CASE

The claimed invention is directed to “a composite sleeve seal for a fluid-tight conduit connection between male and female tubular members” (Spec. 1: 5-6). The sleeve “is mounted over a male tube end, and is received by a female tube end” (Spec. 7: 6). “The composite sleeve seal is a molded, sectioned collar having spaced apart seal portions that are contiguous with

the collar sections and are positively interlocked with the collar sections” (Spec. 7: 6-9). “The annular collar sections are interconnected by link segments” (Spec. 7: 12-13). “A seal portion is interposed the collar sections . . . and surrounds the link segments to interlock the seal portion with the body portion to form the composite sleeve seal as an integral component” (Spec. 7: 13-15).

Claims 1-13 and 15 are pending and appealed (Supp. Br. 2¹).

Appellant appeals the following prior art rejections (Supp. Br. 4):

- 1) Claims 1-3 and 8 stand rejected under 35 U.S.C. § 102(b) as anticipated by Frye (U.S. Pat. No. 4,715,624);
- 2) Claims 4-6, 9-11, and 15 stand rejected under 35 U.S.C. § 103(a) as obvious over Frye in view of Thompson (U.S. Pat. No. 2,809,060); and
- 3) Claims 7 and 12-13 stand rejected under 35 U.S.C. § 103(a) as obvious over Frye in view of Hansel (U.S. Pat. No. 5,879,033).

Appellant contends that the claims do not stand or fall together (Supp. Br. 5). We select claims 1, 2, 4, 7, and 8 as representative. *See* 37 C.F.R. § 41.37(c)(1)(vii). Claims 1, 2, 4, 7, and 8 read as follows:

1. A composite sleeve seal comprising:
 - a body portion including at least one collar section having at least one link segment extending therefrom; and
 - at least one seal portion contiguous with said at least one collar section and surrounding said at least one link segment to interlock said at least one seal portion with said body portion to form said composite sleeve seal as one integral component.
2. A composite sleeve seal for sealing a conduit connection, said composite sleeve seal comprising:

¹ Second Supplemental Appeal Brief which was filed Aug. 25, 2004.

a body portion including a plurality of collar sections spaced apart from one another to define at least one gap therebetween, said plurality of collar sections being interconnected by at least one link segment spanning said at least one gap; and

at least one seal portion interposed said plurality of collar sections in said at least one gap and surrounding said at least one link segment to interlock said at least one seal portion with said body portion to form said composite sleeve seal as one integral component.

4. A composite sleeve seal as claimed in claim 2, wherein said at least one link segment comprises three link segments interconnecting each of said plurality of collar sections together.

7. A composite sleeve seal as claimed in claim 2, wherein one of said plurality of collar sections includes a tapered portion having a tapered surface thereon.

8. A fluid-tight conduit connection comprising:

a female component;

a male component positioned within said female component such that said female component circumscribes said male component; and

a composite sleeve seal circumscribing said male component such that said composite sleeve seal is interposed said male and female components for sealing said fluid-tight conduit connection, said composite sleeve seal comprising:

a body portion including a plurality of collar sections interconnected by at least one link segment; and

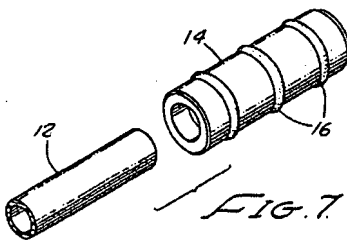
at least one seal portion interposed said plurality of collar sections and surrounding said at least one link segment to interlock said at least one seal portion with said body portion to integrate said composite sleeve seal;

whereby said at least one seal portion is compressed by said male and said female components to primarily seal said fluid-tight conduit connection.

FINDINGS OF FACT

Frye

1. Frye describes a fitting for connecting a metal pipe to plastic (Frye, at col. 1, ll. 7-10).
2. Fig. 1 of Frye shows a main line 10 and feeder line 11/11' for supplying gas to a house or building (Frye, at col. 2, l. 65 to col. 3, l. 9).
3. A plastic pipe 12 is interconnected to pipe section 11' of the feeder line (Frye, at col. 3, 5-9) by a "hollow cylindrical plastic piston-like member" (14) (Frye, at col. 1, ll. 55-61).
4. Fig. 7 of Frye, reproduced below, shows a perspective view of the piston-like member 14 disassembled from the pipe 12 (Frye, at col. 2, ll. 50-51):



Frye's Fig. 7 depicts the piston-like member 14.

5. The hollow cylindrical plastic piston-like member 14 comprises "a plurality of O-rings [shown as 16 in Fig. 7 above] thereabout" (Frye, at col. 1, ll. 58-60).
6. The member has "[a] plurality of circumferentially extending grooves 15" into which the O-rings 16 are placed (Frye, at col. 3, ll. 13-15).
7. The piston-like member "is received within the open end of the metal feeder pipe section, the cross sectional dimensions of the member and O-rings being such as to provide a sliding sealing relation between the inner pipe section wall" (Frye, at col. 1, ll. 60-64).

8. “The plastic carrier or pipe 12 is sealing secured within the bore of the piston 14 and extends outwardly from the pipe section” (Frye, at col. 3, 26-28).

9. Fig. 6 of Frye, reproduced below with annotations, shows a sectional view of the piston-like member 14 interconnecting the pipe 12 with the metal feeder piper 11’:

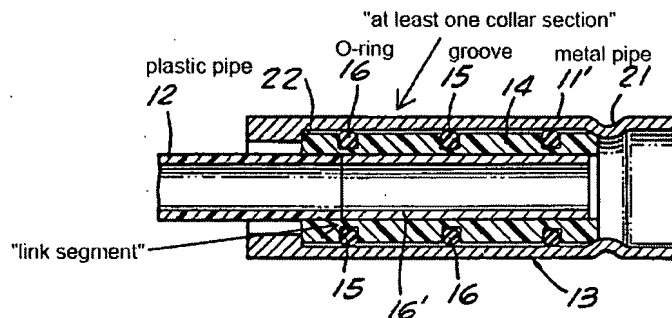


Fig. 6 of Frye depicts the piston-like member 14.

Application of Frye to the claims

10. The piston-like member 14 has a hollow cylindrical body which satisfies the limitation of claims 1, 2, and 8 of a “body portion” (Answer 4).

11. The piston-like member 14 includes a body wall between 16 (O-ring) and 15 (as shown in Fig. 6 reproduced above in Findings of Fact (“FF”) 9) which corresponds to “at least one collar section” of the composite sleeve seal of claim 1 and the “plurality of collar sections” of claims 2 and 8 (Answer 4).

12. The body wall portion underlying the circumferential extending groove 15 (Frye, at col. 3, ll. 13-15 and Fig. 6; FF 6) extends from the body wall (“at least one collar section”) of the piston-like member (*see* Frye at Fig. 6 as reproduced above in FF 9), meeting the limitation of claim 1 of a “at least one link segment [i.e., the groove 15] extending therefrom” the collar section (Answer 4).

13. The O-ring 16 provides a “sealing relation” between the inner pipe wall and the piston-like member (Frye, at col. 1, ll. 60-64; FF 7), and thus is “at least one seal portion” as required by claims 1, 2, and 8.

14. The O-ring 16 (“seal portion”; *see* FF 13) is adjacent and connected to the piston-like member body wall (“collar section”; *see* FF 11), satisfying the limitation of claim 1 of “at least one seal portion contiguous with said at least one collar section.”

15. The O-ring 16 is inserted into the circumferential groove 15, and thus surrounds the body wall portion underlying the groove (“link segment”; Frye, at col. 3, ll. 13-15; *see* FF 6, 12), meeting the limitation of claims 1 and 2 of “at least one seal portion . . . surrounding said at least one link segment.”

16. The body wall portions of the piston-like member are separated from one another by the circumferential groove 15 (Frye, at col. 3, ll. 13-15; FF 6). This arrangement satisfies the limitation recited in claim 2 of “a plurality of collar sections [*see* FF 11] spaced apart from one another to define at least one gap [circumferential groove 15] therebetween.” In other words, the circumferential groove 15 interrupts the body wall of Frye’s piston-like member 14, forming the “gap” of claim 2.

17. The body wall portions are interconnected by the thinned-out sections underlying the circumferential extending grooves 15 (Frye, at col. 3, ll. 13-15 and Fig. 6) and are thus “interconnected by at least one link segment [body wall underlying groove 15; FF 12] spanning said at least one gap [FF 16]” as recited in claim 2 (Answer 6-7).

18. The O-ring 16 is surrounding the body wall portion underlying circumferential groove 15 (“link segment”; Frye, at col. 3, ll. 13-15; FF 6)

which satisfies the limitation of claim 2 of “at least one seal portion [O-ring 16] interposed said plurality of collar sections in said at least one gap [circumferential groove 15] and surrounding said at least one link segment.” (*See also* Frye, at col. 1, ll. 60-64; FF 7, 13).

19. Frye describes a fitting which receives a plastic pipe 12 (FF 3, 8) and which is circumscribed by a metal pipe (FF 1, 3, and 7), meeting the limitations of claim 8 of the male and female components.

20. Frye describes all limitations recited in claim 1 (FF 10-15; Answer 3-4 and 6-7)

21. Frye describes all limitations recited in claim 2 (FF 10, 11, 13, and 15-18; Answer 3-4 and 6-7).

22. Frye describes all limitations recited in claim 8 (FF 10, 11, 13, and 19; Answer 3-4 and 6-7).

Thompson

23. Thompson describes a butterfly valve which is an annular seat or seal 15 adapted to fit into an annular recess 11 (Thompson, at col. 1, ll. 56-66).

24. The annular seal has perforated metallic edges which are embedded in the edge of the seal (Thompson, at col. 1, l. 66 to col. 2, l. 6) and attached to the valve body (Thompson, at col. 2, ll. 30-36).

25. The metallic portions 16 are broken at 18 and 19 to form separate metallic portions at each edge (Thompson, at col. 2, ll. 13-15).

Hansel

26. Hansel describes a connector for connecting hoses together (Hansel, at col. 1, ll. 3-7).

27. The connector has a beveled plug edge (4) (Hansel, at col. 2, ll. 4, Fig. 1).

DISCUSSION

Claims 1-3 and 8

Claims 1-3 and 8 stand rejected under 35 U.S.C. § 102(b) as anticipated by Frye (Answer 3).

Anticipation under 35 U.S.C. § 102 requires that “each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). We agree with the Examiner that Frye describes every element recited in claim 1 (*see* FF 10-15, and 20; Answer 3-4 and 6-7), claim 2 (FF 10, 11, 13, 15-18, and 21; Answer 3-4 and 6-7), and claim 8 (FF 10, 11, 13, 19, and 22; Answer 3-4 and 6-7), anticipating the claimed invention.

Appellant contends that “the Examiner chooses to identify element 14 of Frye as a collar when the patent clearly discloses such element to be a piston” (Supp. Br. 8). We do not find this argument persuasive.

Frye’s description of the piston-like member uses different terminology than the terms used in Appellant’s claims to define the claimed “composite sleeve seal.” However, on page 4 of the Answer, the Examiner reproduced Fig. 6 of Frye and annotated it, showing how the parts of Frye’s device correspond to the elements recited in claims 1 and 8. The body portion of the device between 15 and 16 is shown in reproduced Fig. 6

(Answer 4; FF 9) to correspond to the collar section recited in claims 1 and 8. In our opinion, the Examiner's finding is reasonable. As shown in Fig. 2 of the Specification, the collar portion is the body wall of the sleeve that occurs between the seals. This is the same arrangement and configuration shown in Frye's Fig 6 which has a wall between elements 15 and 16. Yes, Frye describes its device as "piston-like," but it has the same structure as the claimed sleeve. Appellant has not identified a defect in the Examiner's finding and we see none.

Appellant also contends that "the Examiner arbitrarily chooses to identify a portion of the piston as a link when here, once again, the disclosure of Frye is completely silent with respect to the use of a link or collar" (Supp. Br. 8). Fig. 6 on page 4 of the Answer shows the region 15 of Frye's device under the O-ring which the Examiner asserts corresponds to a "link segment." This region is "extending" from the "at least one collar" and is surrounded by "at least one seal portion," and thus meets both structural requirements of claim 1 (FF 6, 7, 12, 13). Consequently, we see no error in the Examiner's finding. Appellant asserts that the Examiner's choice is "arbitrary," but fails to identify what is arbitrary about it.

Appellant also argues that "the structural interrelationship between the elements of the invention shown in Figure 6 is completely neglected by the Examiner and in lieu thereof the Examiner is using the language of Appellant's specification and the structural relationships as recited in the claims of the Appellant's invention" (Supp. Br. 8-9).

To the contrary, the Examiner quite clearly superimposed the claim language with Frye's device (*see* Answer 4, reproducing Frye's Fig. 6) to show how the structure disclosed by Frye corresponded to the elements

recited in the claims. Appellant contends that the Examiner is wrong, but does not identify or explain the error in the Examiner's finding, which we have determined to be correct.

Appellant also contends to have "solved a general long-felt but unsolved need in the prior art of sealing tubular connections" (Supp. Br. 19). In making an obviousness determination, the Supreme Court instructs us "to look at any secondary considerations that would prove instructive." *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741, 82 USPQ2d 1385, 1395 (2007). Among these considerations is "long felt but unsolved needs." *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). "[P]recedent requires that the applicant submit actual evidence of long-felt need." *In re Kahn*, 441 F.3d 977, 990, 78 USPQ2d 1329, 1338-39 (Fed. Cir. 2006). In this case, Appellant has provided no objective evidence of a long felt unsolved need.

For the foregoing reasons, we affirm the rejection of claims 1, 2, and 8. Claim 3 falls with claims 1, 2, and 8 because different reasons for its patentability were not provided.

Claims 4-6, 9-11, and 15

Claims 4-6, 9-11, and 15 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Frye in view of Thompson (Answer 5).

Claim 4 recites that the "at least one link segment comprises three link segments interconnecting each of said plurality of collar sections together."

The Examiner states that "Frye discloses the invention substantially as claimed above but fails to disclose that the link segment comprises at least three reinforcement members (members similar to 30 of applicants) to

interconnect the plurality of collar sections together” (Answer 5). However, the Examiner contends that

Thompson teaches a seal to have reinforcement members that extend axially and are embedded in the seal (16 embedded in seal 15). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the composite sleeve seal of Frye to have reinforcement members as taught by Thompson to provide strength to the sleeve member (inherent teaching of or purpose of a reinforcement member). . . . It would have been obvious to one having ordinary skill in the art at the time the invention was made to configure the reinforcement members in the link segment to have three reinforcement[s], since have one or two or three would be considered to be a matter of design choice and would be obvious to one having ordinary skills in the art.

(Answer 5).

It is the Examiner’s burden to establish prima facie obviousness. *See, e.g., In re Rijckaert*, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993). “Obviousness requires a suggestion of all limitations in a claim,” *CFMT, Inc. v. Yieldup Intern. Corp.*, 349 F.3d 1333, 1342, 68 USPQ2d 1940, 1947 (Fed. Cir. 2003) and a reason to have combined them. Here, the Examiner has provided evidence of all the limitations of the claimed invention and a reason to have combined them, establishing prima facie obviousness of claim 4.

The Examiner has characterized Thompson as describing a seal member with embedded axial reinforcement members (Answer 5; Thompson at col. 1, l. 66 to col. 2, l. 6, col. 2, ll. 13-15; FF 23-25). The Examiner interprets Thompson’s “reinforcement members” (referred to as “metallic edges” in Thompson) to correspond to the claimed link segment. Replacing Frye’s seal with Thompson’s sealing member, as suggested by the

Examiner, would result in a structure where the seal surrounds and is contiguous with the link segments as required by claim 4.

Appellant argues that “the additional structure would be incompatible” with the objectives of Frye (Supp. Br. 18) and lack of motivation to combine the references (Supp. Br. 16). Appellant also contends that Thompson teaches its seal is attached by screws (Supp. Br. 16).

We are not persuaded by these arguments. “A person of ordinary skill is . . . a person of ordinary creativity, not an automaton.” *KSR*, 127 S. Ct. at 1742, 82 USPQ2d at 1397. The analysis under 35 U.S.C. § 103 therefore “need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR*, 127 S. Ct. at 1741, 82 USPQ2d at 1396. In this case, as stated by the Examiner, the skilled worker would have recognized the benefit of the reinforcement member of Thompson and would have understood that its metallic edges would be attached to the body portion of Frye’s member 14 in the manner described by Thompson (FF 24). Thus, we do not find Thompson incompatible with Frye as asserted by Appellant.

We affirm the rejection of claim 4. Claims 5, 6, 9-11, and 15 fall with claim 4 because separate reasons for their patentability were not provided.

Claims 7 and 12-13

Claims 7 and 12-13 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Frye in view of Hansel (Answer 6).

Claim 7 further limits the claimed composition seal by reciting that “one of said plurality of collar sections includes a tapered portion having a tapered surface thereon.”

The Examiner contends:

Frye discloses the invention substantially as claimed above but fails to disclose that one of the plurality of collar sections includes a tapered portion having a tapered surface thereon. Hansel discloses a seal having a tapered portion (4) having a tapered surface at a collar section (collar having the tapered surface 4). It would have been obvious to one having ordinary skill in the art at the time the invention was made to configure the collar of Frye to have a tapered portion having a tapered surface thereon as taught by Hansel to provide easier insertion of the composite sleeve seal.

(Answer 6).

Appellant describes Hansel (Supp. Br. 13), but does not point to any error in the Examiner’s determination. For example, Appellant contends that “the combination of Hansel et al. with the teachings of Frye would be inoperative in view of the objectives set forth in Frye” (Supp. Br. 18). However, Appellant does not explain what would make Frye inoperative by tapering the edge which fits into the pipe 11’.

We agree with the Examiner’s findings with respect to Hansel, including the reason that would have prompted a person of skill in the art to have modified Frye with Hansel’s teaching. Consequently, we affirm the rejection of claim 7. Claims 12 and 13 fall with claim 7 because they were not separately argued.

Summary

We affirm the rejections of claims 1-13 and 15 over prior art.

Appeal 2007-2330
Application 09/542,897

TIME PERIOD

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

VAN OPHEM & VANOPHEM, PC
REMY J. VANOPHEM, PC
51543 VAN DYKE
SHELBY TOWNSHIP,
MI 48316-4447